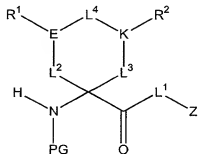


CLAIMS

I claim:

1. The compound of the following formula




wherein

Z comprises the residue of a solid polymer support;

L¹ comprises a divalent group of the formula -O-, -NH-, -O-CH₂-C₆H₄-CH₂O-;

L² and L³ comprise, independently, alkylene, alkenylene, alkynylene, or a direct single bond;

L₄ comprises alkylene, -O-, -S-, -C(O)-, -S(O)-, -S(O)₂-, , or a direct single or double bond;

L⁵ comprises -CH₂CH₂- or -CH₂CH₂CH₂-;

E and K comprise, independently, -N-, -CH-, or -C=;

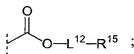
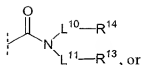
PG comprises hydrogen or an amino protecting group;

R¹ and R² comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, hydrogen, halo, -O-G³, -O-G⁴, -G³, -G⁴, or -N(G³)G⁴;

R¹ and R² may be taken together to constitute a cycloalkyl or heterocyclyl ring, or, where L⁴ is a direct bond, R¹ and R² may be taken together to constitute a fused aryl or heteroaryl ring;

G³ and G⁴ comprise, independently,





where

$L^7, L^8, L^9, L^{10}, L^{11}, L^{12}$ comprise, independently, alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene, heteroarylene, fused cycloalkylarylene, fused cycloalkylheteroarylene, fused heterocyclarylene, fused heterocyclheteroarylene, or a direct bond; and

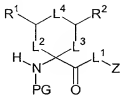
$R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}$ comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, heterocycl, heteroaryl, aryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclaryl, fused heterocyclheteroaryl, $-NR^{18}R^{19}$, $-OR^{18}$, $-SR^{18}$, or hydrogen, where R^{18} and R^{19} are as defined below;

R^{18} and R^{19} comprise, independently, hydrogen, alkyl, alkynyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, heterocycl, or heteroaryl.

2. The compound of claim 1, wherein the groups L^2, L^4, E , and K comprise a ring with 3 to 8 members.

3. The compound of claim 2, wherein PG is selected from the group consisting of t-butoxycarbonyl, 9-fluorenylmethoxycarbonyl, and benzyloxycarbonyl.

4. The compound of claim 2, wherein E and K are $-CH_2-$ represented by the formula



and wherein,

L^2 and L^3 comprise, independently, $-CH_2-$, $-CH_2CH_2-$, or a direct single bond;

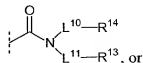


L^4 comprises $-CH_2-$, $-C(O)-$, , or a direct single bond;

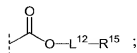
L^5 comprises $-CH_2CH_2-$ or $-CH_2CH_2CH_2-$;

R^1 and R^2 comprises, independently, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycl, aryl, heteroaryl, hydrogen, halo, $-O-G^3$, $-O-G^4$, $-G^3$, $-G^4$, or $-N(G^3)G^4$;

R^1 and R^2 may be taken together to constitute a cycloalkyl or heterocyclyl ring;
 G^3 and G^4 comprise, independently,



5



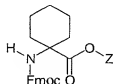
where

$L^7, L^8, L^{10}, L^{11}, L^{12}$ comprise, independently, alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene, heteroarylene, fused cycloalkylarylene, fused cycloalkylheteroarylene, fused heterocyclylarylene, fused heterocyclylheteroarylene, or a direct bond; and

$R^{10}, R^{11}, R^{13}, R^{14}, R^{15}$ comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, heterocyclyl, heteroaryl, aryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclylaryl, fused heterocyclylheteroaryl, $-NR^{18}R^{19}$, $-OR^{18}$, $-SR^{18}$, or hydrogen, where R^{18} and R^{19} are as defined below;

R^{18} and R^{19} comprise, independently, hydrogen, alkyl, alkynyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, heterocyclyl, or heteroaryl.

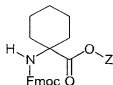
5. The compound of claim 4 of the formula



20

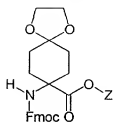
wherein Z comprises the Wang resin.

6. The compound of claim 4 of the formula



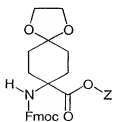
wherein Z comprises the Merrifield resin.

7. The compound of claim 4 of the formula



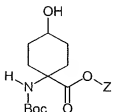
wherein Z comprises the Wang resin.

8. The compound of claim 4 of the formula



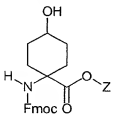
wherein Z comprises the Merrifield resin.

9. The compound of claim 4 of the formula



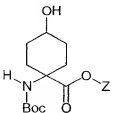
wherein Z comprises the Wang resin.

10. The compound of claim 4 of the formula



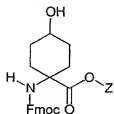
wherein Z comprises the Wang resin.

11. The compound of claim 4 of the formula



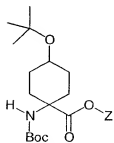
wherein Z comprises the Merrifield resin.

12. The compound of claim 4 of the formula



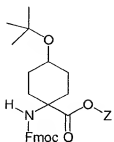
wherein Z comprises the Merrifield resin.

13. The compound of claim 4 of the formula



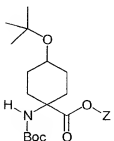
wherein Z comprises the Wang resin.

14. The compound of claim 4 of the formula



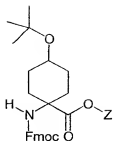
wherein Z comprises the Wang resin.

15. The compound of claim 4 of the formula



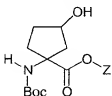
wherein Z comprises the Merrifield resin.

16. The compound of claim 4 of the formula



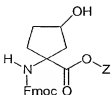
wherein Z comprises the Merrifield resin.

17. The compound of claim 4 of the formula



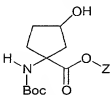
wherein Z comprises the Wang resin.

18. The compound of claim 4 of the formula



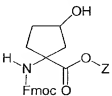
wherein Z comprises the Wang resin.

19. The compound of claim 4 of the formula



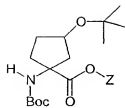
wherein Z comprises the Merrifield resin.

20. The compound of claim 4 of the formula



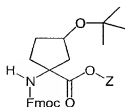
wherein Z comprises the Merrifield resin.

21. The compound of claim 4 of the formula



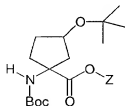
wherein Z comprises the Wang resin.

22. The compound of claim 4 of the formula



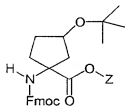
wherein Z comprises the Wang resin.

23. The compound of claim 4 of the formula



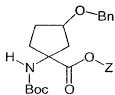
wherein Z comprises the Merrifield resin.

24. The compound of claim 4 of the formula



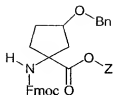
wherein Z comprises the Merrifield resin.

25. The compound of claim 4 of the formula



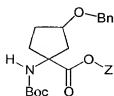
wherein Z comprises the Wang resin.

26. The compound of claim 4 of the formula



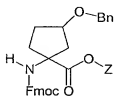
wherein Z comprises the Wang resin.

27. The compound of claim 4 of the formula



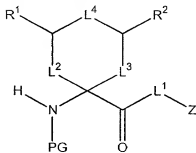
wherein Z comprises the Merrifield resin.

28. The compound of claim 4 of the formula



wherein Z comprises the Merrifield resin.

29. The compound of claim 2, wherein E and K are $-\text{CH}_2-$, represented by the formula



and wherein,

L^2 and L^3 comprise, independently, $-\text{CH}_2-$, $-\text{CH}_2\text{CH}_2-$, or a direct single bond;

L^4 comprises $-\text{O}-$, $-\text{S}-$, $-\text{S}(\text{O})-$, or $-\text{S}(\text{O})_2-$;

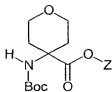
R^1 and R^2 comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl,

heteroaryl, hydrogen, halo, $-\text{O}-\text{G}^3$, $-\text{O}-\text{G}^4$, $-\text{G}^3$, $-\text{G}^4$, or $-\text{N}(\text{G}^3)\text{G}^4$;

R^1 and R^2 may be taken together to constitute a heterocyclyl ring;

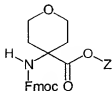
G^3 and G^4 comprise, independently,





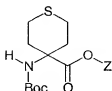
wherein Z comprises the Merrifield resin.

33. The compound of claim 29 of the formula



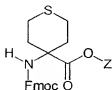
wherein Z comprises the Merrifield resin.

34. The compound of claim 29 of the formula



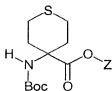
wherein Z comprises the Wang resin.

35. The compound of claim 29 of the formula



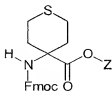
wherein Z comprises the Wang resin.

36. The compound of claim 29 of the formula



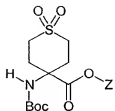
wherein Z comprises the Merrifield resin.

37. The compound of claim 29 of the formula



wherein Z comprises the Merrifield resin.

38. The compound of claim 29 of the formula



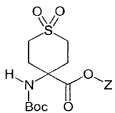
wherein Z comprises the Wang resin.

39. The compound of claim 29 of the formula



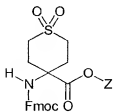
wherein Z comprises the Wang resin.

40. The compound of claim 29 of the formula



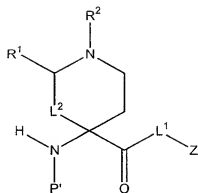
wherein Z comprises the Merrifield resin.

41. The compound of claim 29 of the formula



wherein Z comprises the Merrifield resin.

42. The compound of claim 2, wherein E comprises $-\text{CH}-$, K comprises $-\text{N}-$, L^3 comprises $-\text{CH}_2\text{CH}_2-$, L^4 comprises a direct single bond, represented by the formula



and wherein,

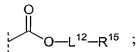
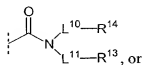
L² comprises -CH₂-, -CH₂CH₂-, or a direct single bond;

R¹ comprises alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, hydrogen, halo, -O-G³, -G³, or -N(G³)G⁴;

R² comprises alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, hydrogen, or -G⁵;

R¹ and R² may be taken together to constitute a heterocyclyl ring;

G³ and G⁴ comprise, independently,



where

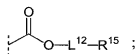
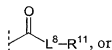
L⁷, L⁸, L¹⁰, L¹¹, L¹² comprise, independently, alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene, heteroarylene, fused cycloalkylarylene, fused cycloalkylheteroarylene, fused heterocyclylarylene, fused heterocyclylheteroarylene, or a direct bond; and

R¹⁰, R¹¹, R¹³, R¹⁴, R¹⁵ comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl,

cycloalkenyl, heterocyclyl, heteroaryl, aryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclylaryl, fused heterocyclylheteroaryl, -NR¹⁸R¹⁹, -OR¹⁸, -SR¹⁸, or hydrogen, where R¹⁸ and R¹⁹ are as defined below;

R¹⁸ and R¹⁹ comprise, independently, hydrogen, alkyl, alkynyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, heterocyclyl, or heteroaryl;

G⁵ comprises



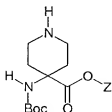
where

L⁷, L⁸, L¹² comprise, independently, alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene, heteroarylene, fused cycloalkylarylene, fused cycloalkylheteroarylene, fused heterocyclylarylene, fused heterocyclylheteroarylene, or a direct bond; and

R¹⁰, R¹¹, R¹⁵ comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, heterocyclyl, heteroaryl, aryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclylaryl, fused heterocyclylheteroaryl, -NR¹⁸R¹⁹, -OR¹⁸, -SR¹⁸, or hydrogen, where R¹⁸ and R¹⁹ are as defined below;

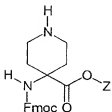
R¹⁸ and R¹⁹ comprise, independently, hydrogen, alkyl, alkynyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, heterocyclyl, or heteroaryl.

43. The compound of claim 42 of the formula



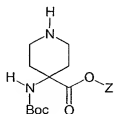
wherein Z comprises the Wang resin.

44. The compound of claim 42 of the formula



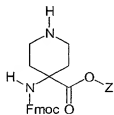
wherein Z comprises the Wang resin.

45. The compound of claim 42 of the formula



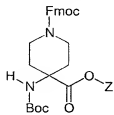
wherein Z comprises the Merrifield resin.

46. The compound of claim 42 of the formula



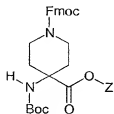
wherein Z comprises the Merrifield resin.

47. The compound of claim 42 of the formula



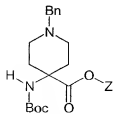
wherein Z comprises the Wang resin.

48. The compound of claim 42 of the formula



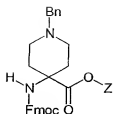
wherein Z comprises the Merrifield resin.

49. The compound of claim 42 of the formula



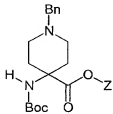
wherein Z comprises the Wang resin.

50. The compound of claim 42 of the formula



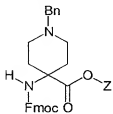
wherein Z comprises the Wang resin.

51. The compound of claim 42 of the formula



wherein Z comprises the Merrifield resin.

52. The compound of claim 42 of the formula



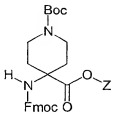
wherein Z comprises the Merrifield resin.

53. The compound of claim 42 of the formula



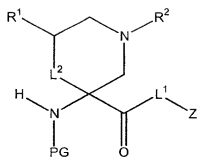
wherein Z comprises the Wang resin.

54. The compound of claim 42 of the formula



wherein Z comprises the Merrifield resin.

55. The compound of claim 2, wherein E comprises $-\text{CH}_2-$, K comprises $-\text{N}-$, L^3 comprises $-\text{CH}_2-$, L^4 comprises $-\text{CH}_2-$, represented by the formula



and wherein,

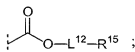
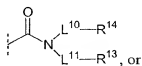
L^2 comprises $-\text{CH}_2-$, $-\text{CH}_2\text{CH}_2-$, or a direct single bond;

5 R^1 comprises alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, hydrogen, halo, $-\text{O}-\text{G}_3$, $-\text{G}_3$, or $-\text{N}(\text{G}_3)\text{G}_4$;

R^2 comprises alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, hydrogen, or $-\text{G}^5$;

R^1 and R^2 may be taken together to constitute a heterocyclyl ring;

10 G^3 and G^4 comprise, independently,



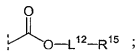
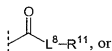
15 where

L^7 , L^8 , L^{10} , L^{11} , L^{12} comprise, independently, alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene, heteroarylene, fused cycloalkylarylene, fused cycloalkylheteroarylene, fused heterocyclylarylene, fused heterocyclylheteroarylene, or a direct bond; and

20 R^{10} , R^{11} , R^{13} , R^{14} , R^{15} comprise, independently, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, heterocyclyl, heteroaryl, aryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclylaryl, fused heterocyclylheteroaryl, $-\text{NR}^{18}\text{R}^{19}$, $-\text{OR}^{18}$, $-\text{SR}^{18}$, or hydrogen, where R^{18} and R^{19} are as defined below;

R¹⁸ and R¹⁹ comprise, independently, hydrogen, alkyl, alkynyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, heterocyclyl, or heteroaryl.

G⁵ comprises



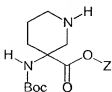
where

L⁷, L⁸, L¹² are, independently, alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, heterocyclylene, heteroarylene, fused cycloalkylarylene, fused cycloalkylheteroarylene, fused heterocyclylarylene, fused heterocyclylheteroarylene, or a direct bond; and

R¹⁰, R¹¹, R¹⁵ are, independently, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, heterocyclyl, heteroaryl, aryl, fused cycloalkylaryl, fused cycloalkylheteroaryl, fused heterocyclylaryl, fused heterocyclylheteroaryl, -NR¹⁸R¹⁹, -OR¹⁸, -SR¹⁸, or hydrogen, where R¹⁸ and R¹⁹ are as defined below;

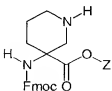
R¹⁸ and R¹⁹ are, independently, hydrogen, alkyl, alkynyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, heterocyclyl, or heteroaryl.

56. The compound of claim 55 of the formula



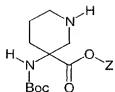
wherein Z comprises the Wang resin.

57. The compound of claim 55 of the formula



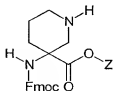
wherein Z comprises the Wang resin.

58. The compound of claim 55 of the formula



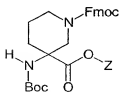
wherein Z comprises the Merrifield resin.

59. The compound of claim 55 of the formula



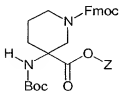
wherein Z comprises the Merrifield resin.

60. The compound of claim 55 of the formula



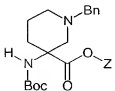
wherein Z comprises the Wang resin.

61. The compound of claim 55 of the formula



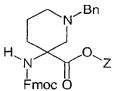
wherein Z comprises the Merrifield resin.

62. The compound of claim 55 of the formula



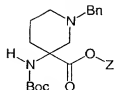
wherein Z comprises the Wang resin.

63. The compound of claim 55 of the formula



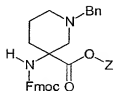
wherein Z comprises the Wang resin.

64. The compound of claim 55 of the formula



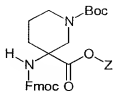
wherein Z comprises the Merrifield resin.

65. The compound of claim 55 of the formula



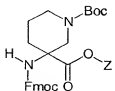
wherein Z comprises the Merrifield resin.

66. The compound of claim 55 of the formula



wherein Z comprises the Wang resin.

67. The compound of claim 55 of the formula



wherein Z comprises the Merrifield resin.